In the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

1-31. (Cancelled)

32. (Currently amended) An apparatus for dispensing liquids into a reaction vessel, said apparatus comprising:

a rotor mounted for rotation about a central axis of rotation, said rotor carrying an array of reaction vessels along a circular path;

a liquid dispenser head including a plurality of valved dispensing nozzles, said liquid dispenser head positioned above said rotor and arranged for movement to align said dispensing nozzles with a plurality of said reaction vessels and dispensing liquid from each dispensing nozzle into a respective reaction vessel; and

a controller for moving said liquid dispenser head about said axis of rotation along said circular path, and for synchronizing said liquid dispenser head and said rotor such that two or more of said plurality of dispensing nozzles each dispense liquid into two or more respective reaction vessels simultaneously.

33. (Currently amended) The apparatus of claim 32 wherein said liquid dispenser head is arranged for movement along a portion of said circular path.

34. (Currently amended) The apparatus of claim 32 wherein said apparatus is configured for chemical synthesis and said liquid dispenser head is fluidly coupled with one or more reagent sources.

35. (Previously presented) The apparatus of claim 34 wherein said apparatus is configured for synthesis of oligomers.

36. (Currently amended) The apparatus of claim 32 wherein [[~~each said nozzle comprises a dispensing valve controlling liquid delivery thereto, wherein~~]] said controller is configured to simultaneously synchronize movement of said rotor and said liquid dispenser head and control of said valved dispensing [[~~valves~~]] nozzles.

37. (Currently amended) The apparatus of claim 36 wherein at least one of said valved dispensing [[~~valves~~]] nozzles comprises an electric solenoid valve.

38. (Currently amended) The apparatus of claim 32 further comprising [[~~a plurality of linear actuator~~]] translation frame operably connected to said liquid dispenser head for effecting movement of said liquid dispenser head along respective X-, Y-, and Z-axes.

39. (Currently amended) The apparatus of claim 38 wherein said controller is configured to actuate said [[~~linear actuator~~]] translation frame such that said plurality of dispensing nozzles move along [[~~said~~]] a portion of said circular path along with said respective ones of said reaction vessels.

40. (Currently amended) The apparatus of claim 32 further comprising a rotary actuator operably connected to said liquid dispenser head for effecting movement of said liquid dispenser head.

41. (Currently amended) The apparatus of claim [[~~38~~]] 40 wherein said controller is configured to actuate said rotary actuator such that said plurality of dispensing nozzles move along [[~~said~~]] a portion of said circular path along with said respective ones of said reaction vessels.

42. (Previously presented) The apparatus of claim 32 wherein said controller is configured to actuate said nozzles and dispense fluid while said rotor is moving along said circular path.

43. (Previously presented) The apparatus of claim 42 wherein said controller is configured to actuate said nozzles and dispense fluid while said dispenser head is moving along said circular path.

44. (Previously presented) The apparatus of claim 32 wherein said plurality of dispensing nozzles are linearly arranged in a pattern corresponding to a radial column of said array of reaction vessels.

45. (Currently amended) The apparatus of claim 32 wherein said liquid dispenser head is a multi-channel dispenser head configured to deliver different liquids to respective sets of said reaction vessels.

46. (Previously presented) The apparatus of claim 32 wherein first and second ones of said dispensing nozzles are fluidly connected with first and second containers, respectively, for simultaneously delivering different liquids to respective ones of said reaction vessels.

47. (Currently amended) The apparatus of claim 46 wherein said plurality of dispensing nozzles form a first set of dispensing nozzles for dispensing a first liquid into a first set of said reaction vessels, said liquid dispenser head further comprising a second set of dispensing nozzles for dispensing a second liquid into a second set of said reaction vessels.

48. (Previously presented) The apparatus of claim 47 wherein said controller is configured to simultaneously actuate said first and second sets of dispensing nozzles.

49. (Previously presented) The apparatus of claim 47 wherein said controller is configured to sequentially actuate said first and second sets of dispensing nozzles.

50. (Previously presented) The apparatus of claim 32 wherein each reaction vessel includes an ingress aperture allowing a liquid to enter into an interior of said vessel and an egress aperture for aspirating the liquid from said vessel.

51. (Currently amended) The apparatus of claim 50, [[~~said apparatus further comprising a liquid aspirator for aspirating the liquid through said egress aperture, said liquid aspirator including~~]] wherein said rotor is configured for carrying said vessel and orbiting said vessel about [[~~an~~]] said axis of rotation for aspirating the liquid through said egress aperture, said rotor oriented generally in a horizontal plane.

52. (Previously presented) The apparatus of claim 50 wherein said apparatus further comprises an adjustment mechanism for adjusting the angle of the vessel relative to the horizontal plane in response to the centrifugal force generated by orbiting the vessel about said axis of rotation.

53. (Previously presented) The apparatus of claim 50 wherein said reaction vessel array comprises a microtiter plate having an array of wells, wherein each said ingress aperture is an opening of a respective well.

54. (Previously presented) The apparatus of claim 53 wherein each said egress aperture extends radially outwardly with respect to said axis of rotation.

55. (Previously presented) The apparatus of claim 54 wherein said microtiter plate is formed of a porous polymeric material, wherein the porosity of said porous polymeric material forms said egress aperture.

56. (Currently amended) The apparatus of claim 50 wherein said reaction vessel array is a microtiter plate and [[~~said~~]] an adjustment mechanism adjusts the angle of said microtiter plate relative to the horizontal plane in response to the centrifugal force generated by orbiting said microtiter plate about said axis of rotation.

57. (Previously presented) The apparatus of claim 32 wherein said reaction vessel array comprises a microtiter plate.

58. (Currently amended) The apparatus of claim 32 wherein each vessel is configured for containing a combinatorial-chemistry synthetic reaction, said apparatus further comprising a centrifugal motor for rotating said rotor about said [[~~central~~]] axis of rotation and moving said array of reaction vessels along said circular path.

59. (Currently amended) A method for dispensing liquids into a reaction vessel comprising the steps:

providing a rotor and a liquid dispenser head, wherein said rotor is mounted for rotation about a central axis of rotation and carrying an array of reaction vessels along a circular path, and wherein said liquid dispenser head includes a plurality of valved dispensing nozzles and is movably positioned above said rotor for movement to align said dispensing nozzles with a plurality of said reaction vessels;

moving said liquid dispenser head about said axis of rotation along said circular path;

synchronizing said liquid dispenser head and said rotor such that two or more of said plurality of dispensing nozzles are aligned with two or more respective reaction vessels; and

simultaneously dispensing liquid into said two or more respective ones of said reaction vessels.

60. (Previously presented) The method of claim 59 wherein said plurality of dispensing nozzles are moveably positioned for movement along a portion of said circular path.

61. (Previously presented) The method of claim 59 further comprising the step of performing chemical synthesis in at least one of said reaction vessels.

62. (Previously presented) The method of claim 61 wherein said performing step comprises synthesis of oligomers.

63. (Currently amended) The method of claim 59 [[~~wherein each said nozzle comprises a dispensing valve controlling liquid delivery thereto,~~]] wherein said synchronizing step further comprises controlling said valved dispensing [[~~valves~~]] nozzles.

64. (Currently amended) The method of claim 63 wherein at least one of said valved dispensing [[~~valves~~]] nozzles comprises an electric solenoid valve.

65. (Currently amended) The method of claim 59 further comprising the step of actuating a [[~~plurality of linear actuators~~]] translation frame operably connected to said liquid dispenser head for effecting movement of said liquid dispenser head.

66. (Currently amended) The method of claim 65 further comprising the step of actuating said [[~~linear actuators~~]] translation frame such that said plurality of dispensing nozzles move along said portion of said circular path synchronized with said respective ones of said reaction vessels.

67. (Currently amended) The method of claim 59 further comprising the step of actuating a rotary actuator operably connected to said liquid dispenser head for effecting movement of said liquid dispenser head.

68. (Previously presented) The method of claim 67 further comprising the step of actuating said rotary actuator such that said plurality of dispensing nozzles move along said portion of said circular path synchronized with said respective ones of said reaction vessels.

69. (Previously presented) The method of claim 59 wherein said plurality of dispensing nozzles are linearly arranged, said method further comprising the step of aligning said plurality of dispensing nozzles with a radial column of said array of reaction vessels.

70. (Previously presented) The method of claim 59 further comprising the step of simultaneously delivering different liquids to respective ones of said reaction vessels.

71. (Previously presented) The method of claim 70 further comprising the step of actuating said nozzles and dispense fluid while said rotor is moving along said portion of said circular path.

72. (Previously presented) The method of claim 71 further comprising the step of actuating said nozzles and dispensing fluid while said dispenser head is moving along said circular path.

73. (Currently amended) The method of claim 70 wherein said plurality of dispensing nozzles form a first set of dispensing nozzles, the method further comprising the step of delivering a first liquid from said first set of dispensing nozzles and delivering a second liquid from a second set dispensing nozzles mounted on said liquid dispenser head.

74. (Previously presented) The method of claim 73 wherein first and second liquids are delivered simultaneously.

75. (Previously presented) The method of claim 73 wherein first and second liquids are delivered sequentially.

76. (Previously presented) The method of claim 59 wherein said reaction vessel array comprises a microtiter plate.

77-88. (Cancelled, without prejudice or disclaimer)

89. (New) An apparatus for dispensing liquids into a reaction vessel, said apparatus comprising:

a rotor mounted for rotation about a central axis of rotation, said rotor carrying an array of reaction vessels along a circular path;

a liquid dispenser head including a plurality of valved dispensing nozzles, said liquid dispenser head positioned above said rotor and arranged for movement to align said dispensing nozzles with a plurality of said reaction vessels and dispensing liquid from each dispensing nozzle into a respective reaction vessel; and

a controller for moving said liquid dispenser head along an arcuate path and for synchronizing said liquid dispenser head and said rotor such that two or more of said plurality of dispensing nozzles each dispense liquid into two or more respective reaction vessels simultaneously.

90. (New) The apparatus of claim 89 wherein said arcuate path is coincident with said circular path.

91. (New) The apparatus of claim 90 wherein said controller is configured to move said liquid dispenser head while said rotor is rotating.

92. (New) A method for dispensing liquids into a reaction vessel comprising the steps:

providing a rotor and a liquid dispenser head, wherein said rotor is mounted for rotation about a central axis of rotation and carrying an array of reaction vessels along a circular path, and wherein said liquid dispenser head includes a plurality of valved dispensing nozzles and is movably positioned above said rotor for movement to align said dispensing nozzles with a plurality of said reaction vessels;

moving said liquid dispenser head along an arcuate path;

synchronizing said liquid dispenser head and said rotor such that two or more of said plurality of dispensing nozzles are aligned with two or more respective reaction vessels; and

simultaneously dispensing liquid into said two or more respective ones of said reaction vessels.

93. (New) The method of claim 92 wherein said arcuate path is coincident with said circular path.

94. (New) The method of claim 93 wherein said simultaneously dipensing step occurs while said array of reaction vessels is moving along said circular path.